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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/647,845 | 08/25/2003 | Ive Bracke | 920522-94719 | 3712 |

23644 7590 07/23/2007
BARNES & THORNBURG LLP
P.O. BOX 2786
CHICAGO, IL 60690-2786

| EXAMINER | |
|---|---|
| PRABHAKHER, PRITHAM DAVID | |
| **ART UNIT** | **PAPER NUMBER** |
| 2622 | |
| **MAIL DATE** | **DELIVERY MODE** |
| 07/23/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/647,845 | BRACKE, IVE | |
| | Examiner | Art Unit | |
| | Pritham Prabhakher | 2622 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29 and 32-37* is/are rejected.

7)☒ Claim(s) *30 and 31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *1/07/19/07* .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## *DETAILED ACTION*

### *Response to Arguments*

*Applicant's arguments with respect to* ***Claims 1-29 and 32-37*** *have been considered but are moot in view of the new ground(s) of rejection.*

### *Claim Rejections - 35 USC § 103*

*The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:*

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

***Claims 1-29 and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palovuori (US Pub No.: 2004/0233276A1) and further in view of Faroudja et al. (US Patent No.: 6222589B1)***

*In regard to* ***Claim 1****, Palovuori teaches of an imaging system (The imaging system includes not only the projectors and displays screen, but also the shutter glasses G,* ***Figure 1)*** *for multiple view imaging comprising at least a first and second video processing device, each of the at least first and second video processing devices being for displaying a video image on one or more display devices (L and R represent video processing devices used for displaying a video image (IM) on a display screen S,* ***See Figure 1)****,*

*each video processing device receiving at least a first sequence of image frames comprising at least a second sequence of image frames and a third sequence of image frames (Stereo video signal SS (first sequence) is separated into image signals SR (second sequence) and SL (third sequence), **Paragraph 0037)**, the at least second and third sequences of image frames being for generating at least first and second video streams, respectively (SR and SL are used to produce image signals for the right and left eye respectively, **Paragraph 0037)**, and*

*each video processing device outputting a fourth sequence of image frames, the fourth sequences of image frames being for generating at least one of the at least first or second video streams (An image (fourth sequence) is projected from the right and left projectors. The image (fourth sequence) is made up of the right (first) and left (second) image signals (video streams), **Paragraph 0037)**.*

*wherein the imaging system (The imaging system includes not only the projectors and displays screen, but also the shutter glasses G, **Figure 1)** is adapted to utilize a linking signal for synchronising images displayed by at least one of the at least the first and second video processing devices (first and second projectors R and L) on the display device (S) (The decoder C sends a linking signal SG to synchronize the operation of the shutter glasses for the reproduction (display) of successive images from the projectors, **Paragraph 0037)**.*

*However, Palovuori does not teach of the fourth sequence of image frames from the first and second video processing devices having an undefined relative phase (projected at a different frequency) with respect to the first sequence of video frames.*

*Faroudja et al. teach of frames (fourth sequence) being output at a different/higher frequency than the input (first sequence of frames),* ***Figure 6 Column 9, Lines 21-25 of Faroudja et al****. It would have been obvious to one of ordinary skill in the art to output the frames at a higher frequency than the input because it helps avoid flickering and eye strain,* ***Column 1, Line 27 of Faroudja et al****.*

*With regard to* ***Claim 2****, Palovuori and Faroudja et al. disclose an imaging system according to claim 1 wherein the fourth sequence comprises at least a fifth sequence of multiple view display image frames and a sixth sequence of multiple view display image frames, the at least fifth and sixth sequences of image frames being for generating the at least first and second video streams, respectively (The image IM (fourth sequence) is made up of a left image signal (fifth sequence generating first video stream) and right image signal (sixth sequence generating second video stream),* ***Paragraph 0037 and Figure 1 of Palovuori)****.*

*Regarding* ***Claim 3****, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, wherein the at least first and second video images are sequenced frame-wise when displayed to form a multiple view image (Figure 1 of Palovuori shows that the images from the Left and Right projectors are sequenced to form a multiple-view (from Left and Right perspective) image IM).*

*In regard to* ***Claim 4****, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, wherein the fourth sequence comprising, at least, the fifth and sixth sequences is a single video output signal with video frames containing multiple fields (left and right image signals) (The image IM (fourth sequence) is made up of a left*

*image signal (fifth sequence generating first video stream) and right image signal (sixth sequence generating second video stream),* ***Paragraph 0037 and Figure 1 of Palovuori)****.*

*Regarding* ***Claim 5****, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, wherein the linking signal is an additional signal to those signals required to display the, at least, first or second video images per se* ***(****Looking at Figure 1 of Palovuori, it is clear that the linking signal SG is separate from the signals SL and SR that are required to display the first and second video images****)****.*

*In regard to* ***Claim 6****, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, wherein each video-processing device* ***(****Projectors L and R) receives furthermore an input control signal* ***(****Palovuori teaches that an input control signal SG is generated separately for each projector,* ***Paragraph 0048 of Palovuori)****. Although not specifically mentioned, it is inherent that the input control signal would correspond to an input rate (frequency of video signals SR and SL, Paragraph 0044 of Palovuori) and phase of the, at least, second and third sequences of image frames, because this would be necessary to combine the signals from SR and SL for display.*

*With regard to* ***Claim 7****, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, wherein the linking signal is a signal that is generated externally to the video processing devices* ***(Figure 1*** *of Palovuori shows that the decoder C which generates the control signal SG is located externally from the video processing devices****)****.*

*In regard to **Claim 8**, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, wherein the linking signal is a signal that is generated internally in one of the video processing devices. It is inherent that there is a linking signal present inside the video processing devices (projectors) to synchronize and combine the left and right images from the L and R projectors.*

*In regard to **Claim 9**, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, furthermore comprising at least one image source **(Paragraph 0007 of Palovuori** teaches that there is at least one image source present**)**.*

*Regarding **Claim 10**, Palovuori and Faroudja et al. disclose an imaging system according to claim 9, there being at least two image sources of different types **(**The stereo image recorded to be presented to the projectors are recorded by special cameras with two objective lenses (two image sources of different types), **Paragraph 0007)**.*

*In regard to **Claim 11**, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, adapted to process the first sequence of input image frames and having means for field rate converting the first sequence **(**Faroudja et al. teach of frames (fourth sequence) being output at a different/higher frequency than the input (first sequence of frames), **Figure 6 and Column 9, Lines 21-25 of Faroudja et al.)**.*

*With regard to **Claim 12**, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, wherein the, at least, second (SR) or third sequence (SL)*

*is processed in frame sets (The left image frame set would be processed separately from the right image frame set,* ***Figure 1 of Palovuori)****.*

*In regard to* ***Claim 13****, Palovuori and Faroudja et al. disclose an imaging system according to claim 2, wherein the imaging system is adapted to generate an output control signal for an image modulation device allowing the image modulation device to properly synchronize with the output rate and phase of the, at least, fifth and sixth sequences (The decoder C sends a linking/control signal SG to synchronize the operation of the shutter glasses G (image modulation device) for the reproduction (display) of successive images (fifth (left) and sixth (right) sequences from the projectors,* ***Paragraph 0037 of Palovuori)****.*

*With regard to* ***Claim 14****, Palovuori and Faroudja et al. disclose an imaging system according to claim 13, wherein the image modulation device is any of active glasses with a synchronization system in* ***Paragraphs 0023 and 0037 of Palovuori****.*

*In regard to* ***Claim 15****, Palovuori and Faroudja et al. disclose an imaging system according to claim 13, wherein the output control signal is functionally compatible with the linking signal (The output control signal and linking signal are one in the same in that they are both used to synchronize the operation of the shutter glasses therefore synchronizing the projection of images intended for the right and left eye,* ***Paragraphs 0023 and 0037 of Palovuori)****.*

*With regard to* ***Claim 16****, Palovuori and Faroudja et al. disclose an imaging system according to claim 6, wherein the input control signal is provided by means of a*

*separate signal (Palovuori teaches that an input control signal SG is generated separately for each projector,* ***Paragraph 0048 of Palovuori****).*

*In regard to* ***Claim 17****, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, wherein the first sequence comprising, at least, second and third sequences is a single video input signal (SS) with video frames containing multiple fields (The single video input signal contains multiple (two) fields of video frames. One video frame is for the left projector and one for the right projector, Figure 1 of* ***Palovuori)****.*

*Regarding* ***Claim 18****, Palovuori and Faroudja et al. disclose an imaging system according to claim 11, adapted to reduce latency between a pair of image frames of the first sequence of image frames (input images) and a subsequent output of a corresponding pair of image frames of the fourth sequence (output image) by starting the output of a first multiple view display image frame of the pair of display image frames (right and left image frames) of the fourth sequence (output image IM) before arrival of the complete pair of image frames of the first sequence of image frames (input images for R and L) when it is known that the completion of the arrival will occur before the expected completion of the output of the first multiple view display image frame of the fourth sequence (Faroudja et al. teach of frames (fourth sequence) being output at a different/higher frequency than the input (first sequence of frames),* ***Figure 6 and Column 9, Lines 21-25 of Faroudja et al.).***

*With regard to* ***Claim 19,*** *Palovuori and Faroudja et al. disclose an imaging system according to claim 1, comprising splitting means for splitting the first sequence*

*of image frames into the second sequence and the third sequence* ***(Figure 1 of Palovuori*** *shows that the first sequence of image frames (SS) is split into the second (SR) and third sequence (SL) by using the decoder C,* ***Paragraph 0037 of Palovuori)****.*

*In regard to* ***Claim 20,*** *Palovuori and Faroudja et al. disclose an imaging system according to claim 19, furthermore comprising processing means for processing any of the second sequence or third sequence* ***(****The second sequence (SR) or the third sequence (SL) can be combined (processed) into one video image,* ***Paragraph 0044 of Palovuori)****.*

*Regarding* ***Claim 21****, Palovuori and Faroudja et al. disclose an imaging system according to claim 19, furthermore comprising a combining means for combining the second sequence and the third sequence into one combined stream of image frames* ***(****The second sequence (SR) or the third sequence (SL) can be combined (processed) into one video image,* ***Paragraph 0044 of Palovuori)****.*

*In regard to* ***Claim 22****, Palovuori and Faroudja et al. disclose an imaging system according to claim 1, wherein the at least two video processing devices are front projectors* ***(See Figure 1 of Palovuori)****.*

*With regard to* ***Claim 23****, Palovuori and Faroudja et al. disclose the use of an imaging system according to claim 1, wherein the video processing devices create a single large image by tiling the at least two video processing devices* ***(****Image IM in* ***Figure 1 of Palovuori)****.*

*In regard to* ***Claim 24****, Palovuori teaches of a method for performing multiple view imaging by means of at least a first and a second video processing devices, each*

*of the at least first and second video processing devices being for displaying a video image on one or more display devices (L and R represent video processing devices used for displaying a video image (IM) on a display screen S,* ***See Figure 1)****, the method comprising:*

*receiving at least a first sequence of image frames comprising at least a second sequence of image frames and a third sequence of image frames (Stereo video signal SS (first sequence) is separated into image signals SR (second sequence) and SL (third sequence),* ***Paragraph 0037)****, the at least second and third sequences of images frames being for generating at least first and second video images, respectively (SR and SL are used to produce image signals for the right and left eye respectively,* ***Paragraph 0037)****, and*

*outputting at least a fourth sequence of image frames, the at least fourth sequences of image frames being for generating at least one of the first and second video images (An image (fourth sequence) is projected from the right and left projectors. The image (fourth sequence) is made up of the right (first) and left (second) image signals (video streams),* ***Paragraph 0037)****,*

*the method comprising generating a linking signal for synchronizing images displayed by the at least one of the first and second video processing devices (first and second projectors R and L) on the display device (S) (The decoder C sends a linking signal SG to synchronize the operation of the shutter glasses for the reproduction (display) of successive images from the projectors,* ***Paragraph 0037)****.*

*However, Palovuori does not teach of a method where the fourth sequence of image frames from the first and second video processing devices having an undefined relative phase (projected at a different frequency) with respect to the first sequence of video frames. Faroudja et al. teach of frames (fourth sequence) being output at a different/higher frequency than the input (first sequence of frames),* ***Figure 6 Column 9, Lines 21-25 of Faroudja et al****. It would have been obvious to one of ordinary skill in the art to output the frames at a higher frequency than the input because it helps avoid flickering and eye strain,* ***Column 1, Line 27 of Faroudja et al****.*

*With regard to* ***Claim 25****, Palovuori and Faroudja et al. disclose a method according to claim 24, wherein generating the linking signal comprises generating the linking signal externally to the video processing devices* ***(Figure 1*** *of Palovuori shows that the decoder C which generates the control signal SG is located externally from the video processing devices****)****.*

*In regard to* ***Claim 26****, Palovuori and Faroudja et al. disclose a method according to claim 24, wherein generating the linking signal comprises generating the linking signal internally in one of the video processing devices. It is inherent that there is a linking signal present inside the video processing devices (projectors) to synchronize and combine the left and right images from the L and R projectors.*

*Regarding* ***Claim 27****, Palovuori and Faroudja et al. disclose a method according to claim 24, furthermore comprising providing images from at least one image source* ***(Paragraph 0007 of Palovuori*** *teaches that there is at least one image source present****)****.*

*With regard to **Claim 28**, Palovuori and Faroudja et al. disclose a method according to claim 27, wherein the images are provided from at least two image sources of different type (The stereo image recorded to be presented to the projectors are recorded by special cameras with two objective lenses (two image sources of different types), **Paragraph 0007)**.*

*In regard to **Claim 29**, Palovuori and Faroudja et al. disclose a method according to claim 24, comprising processing the first sequence of image frames in pairs (left and right images) for the purpose of field rate conversion (Faroudja et al. teach of frames, with A and B being the left and right images (fourth sequence) being output at a different/higher frequency (field rate conversion) than the input (first sequence of frames), **Figure 6 and Column 9, Lines 21-25 of Faroudja et al.)**.*

*Regarding **Claim 32**, Palovuori and Faroudja et al. disclose a method according to claim 24, furthermore comprising generating a control signal for an image modulation device (shutter glasses G) allowing the image modulation device to properly synchronize with an output rate and phase of the fourth sequence of image frames (The decoder C sends a linking/control signal SG to synchronize the operation of the shutter glasses G (image modulation device) for the reproduction (display) of successive images (fifth (left) and sixth (right) sequences from the projectors, **Paragraph 0037 of Palovuori)**.*

*In regard to **Claim 33**, Palovuori and Faroudja et al. disclose a method according to claim 29, wherein the processing of image frames of the first sequence is optimized to reduce latency between a pair of image frames of the first sequence (input images)*

*and a subsequent output of a corresponding pair of image frames of the fourth sequence (output image IM) by starting the output of a first multiple view display image frame of the fourth sequence before arrival of the complete pair of image frames of the first sequence of image frames when it is known that the completion of the arrival will occur before the expected completion of the output of the first multiple view display image frame of the fourth sequence (Faroudja et al. teach of frames (fourth sequence) being output at a different/higher frequency than the input (first sequence of frames),* ***See Figure 6 and Column 9, Lines 21-25 of Faroudja et al.).***

*With regard to* ***Claim 34****, Palovuori and Faroudja et al. disclose a method according to claim 24, comprising splitting the first sequence of image frames into the second sequence intended to be viewed by a first eye and the third sequence intended to be viewed by a second eye of a human person* ***(Figure 1 of Palovuori*** *shows that the first sequence of image frames (SS) is split into the second (SR for right eye) and third sequence (SL for the left eye) by using the decoder C,* ***Paragraph 0037 of Palovuori)****.*

*Regarding* ***Claim 35****, Palovuori and Faroudja et al. disclose a method according to claim 34, furthermore comprising processing any of the second sequence or third sequence (The second sequence (SR) or the third sequence (SL) can be combined (processed) into one video image,* ***Paragraph 0044 of Palovuori)****.*

*In regard to* ***Claim 36****, Palovuori and Faroudja et al. disclose a method according to claim 34, furthermore comprising combining the second sequence and the third sequence into one combined stream of image frames (The second sequence (SR) or*

*the third sequence (SL) can be combined (processed) into one video image,* ***Paragraph 0044 of Palovuori)****.*

*With regard to* ***Claim 37****, it corresponds to the apparatus and method* ***claims 1 and 24*** *and is therefore analyzed and rejected the same as previously discussed with respect to apparatus claim 1. Also, it is inherent that a controller is present to control the operation of the first and second video processing devices in the imaging system of claim 1.*

## *Allowable Subject Matter*

***Claims 30 and 31*** *are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.*

## *Conclusion*

*Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly,* ***THIS ACTION IS MADE FINAL****. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).*

*A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not*

*mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.*

*Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pritham Prabhakher whose telephone number is 571-270-1128. The examiner can normally be reached on M-F (7:30-5:00) Alt Friday's Off.*

*If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.*

*Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.*

*Pritham David Prabhakher*
*Patent Examiner*
*Pritham.Prabhakher@uspto.gov*

Pritham D. Prabhakher

DAVID OMETZ
SUPERVISORY PATENT EXAMINER